



Application No.: 10/814,324
Petition to Make Special
Attorney Docket: WETCO-001B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: DAN DUKE, ET AL.) Confirmation No.
Serial No.: 10/814,324)
Filed: MARCH 31, 2004) Art Unit:
For: COOLING WATER SCALE AND) Examiner:
CORROSION INHIBITION)

DECLARATION OF DAN A. DUKE UNDER 37 C.F.R. 1.102

IN SUPPORT OF APPLICANT'S PETITION TO MAKE SPECIAL

MAIL STOP PETITION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Dan A. Duke, hereby declare as follows:

1. I am a co-inventor of the invention that is the subject of the above-referenced patent application. I have personal knowledge of the following facts and if necessary, I could and would competently testify in relation thereto.
2. The present invention is directed to methods for inhibiting silica scale formation and corrosion in aqueous systems. As is well-known, silica is one of the major scale and fouling problems in many processes using water, the most notable being cooling water processes and the like. In this regard, silica that is naturally present in such aqueous systems can

accumulate and adversely effect equipment and the various industrial processes used in connection therewith.

3. Prior art methods utilized to control silica formation have typically been suboptimal in effectiveness or have otherwise relied upon agents that are extremely toxic in nature. In this regard, most scale control methods typically rely on the addition of a scale inhibitor in combination with control wastage of system water that have been shown to be ineffective, expensive, and introduce toxic elements into the aqueous system. The methods of the present invention eliminate such practices.

4. The present invention is also directed to methods for inhibiting corrosion of metallic substances in an aqueous system that likewise are more effective, safe and efficient than prior art practices. In this regard, the most effective prior art methods rely upon the use of heavy metals, which have since been restricted to their well-documented toxicity and harm to the environment. Such prior art methods further involve extreme modifications in pH that can likewise adversely effect the chemistry and toxicity associated with aqueous system water. The present invention, in contrast, does not rely upon such practices.

5. In this respect, the present invention substantially eliminates environmental hazards associated with the prior art in an extremely cost effective and safe manner by utilizing a simple process that essentially comprises removing hardness ions from the source water contributing to the aqueous system, controlling the conductivity of the aqueous system water, and elevating and maintaining the pH of the aqueous system water to approximately 9.0 or greater. Such process substantially eliminates the extensive use of chemical additives necessary to remove silica, as well as labor intensive practices that must be deployed in order to combat silica and silicate scale formation and corrosion caused thereby. In this regard, I have over twenty years experience in the water treatment industry and, to the best of my knowledge, there has not heretofore been any type of method that has been as effective as those of the present invention in contributing to the restoration and maintenance of silica levels present in aqueous systems used in a variety of industrial applications.

6. I further declare that all statements made here of my own knowledge are true and that all statements made upon information and belief are believed to be true and further, that these

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statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and as such, willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Respectfully submitted,

Date: 5-3-2004 By: Dan A. Duke
Dan A. Duke

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